UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,527	07/03/2001	Matthew B. Wall	2767.2001-005	7543

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EXAMINER
RUTTEN, JAMES D

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/898,527	WALL ET AL.
	Examiner	Art Unit	
	J. Derek Rutten	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>13 June 2005</u>.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-12* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-12* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Acknowledgement is made of Applicant's amendment dated 13 June 2005, responding to

the 9 March 2005 Office action provided in the rejection of claims 1-12, wherein claims 1, 7, and

8 have been amended, no claims have been canceled, and no new claims have been added.

Claims 1-12 remain pending in the application and have been fully considered by the examiner.

2.   Applicant has primarily argued that the claims are not anticipated by the Pahng reference

because it does not disclose creation of a network in a manner free of a central coordinating

computing device. Applicant's arguments have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new

ground(s) of rejection is made in view of US 6,898,791 to Chandy et al.

Response to Amendment/Arguments

3.   Applicant's response to the rejection under 35 U.S.C. 112 is appreciated and overcomes

those rejections, which are therefore withdrawn.

4.   Applicant argues on pages 5-7 of the response that the Pahng reference does not disclose

creation of a network in a manner free of a central coordinating computing device. In particular,

applicant references the originally filed specification page 23 lines 3-5 that discloses the creation

of "a network of linked data objects and/or function objects in a manner free of a globally

predefined network of data objects and/or function objects", with further description in reference

to Fig. 12b on page 23 line 21 – page 24 line 4. This argument is convincing.

5.   Applicant argues on page 8, that there is no motivation to combine the teachings of Bajaj

with those of Pahng, since the two references suggest nonanalogous art. It has been held that a

prior art reference must either be in the field of applicant's endeavor or, if not, then be

reasonably pertinent to the particular problem with which the applicant was concerned, in order

to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977

F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Pahng discloses the implementation

of object code. Bajaj teaches that objects can be implemented by code that is interpreted. Since

each reference deals with the implementation of objects, they are clearly analogous.

Claim Rejections - 35 USC § 101

6.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

7.   Claims 1, 2, 4, and 6-12 are rejected under 35 U.S.C. 101 because the claimed invention

is directed to non-statutory subject matter. The language of the claim raises a question as to

whether the claim is directed merely to an abstract idea that is not tied to a technological art,

environment or machine which would result in a practical application producing a concrete,

useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. The

claim does not appear to require the explicit use of hardware in the course of operating the

invention. For example, "publishing, using a computing device", would be clearly statutory

since the step of publishing is tied directly to a machine to result in a practical application

producing a tangible result. However, it is unclear if the claim is likewise tied to a machine that

would produce such a tangible result. Clarification is required.

Claim Rejections - 35 USC § 112

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9.   Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10.   Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. In claim 1, the first step is "giving users access to a system for generating an emergent model". Subsequent steps do not appear to be related to any such system or generated model. Is the "emergent model" related to the "published inputs and/or outputs" mentioned in later steps? Is the system and/or model used in later mentioned subscription and analyzing? It is not clear if the system access mentioned in the step is related to any other step of the claim. Clarification is required.

11.   Claims 2-12 fail to cure the deficiencies of claim 1, and are rejected as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13.   Claims 1-7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art of record "Modeling and Evaluation of Product Design Problems in a Distributed Design Environment" by Pahng et al. (hereinafter "Pahng") in view of US Patent 6,898,791 to Chandy et al. (hereinafter "Chandy").

As per claim 1, Pahng discloses:

A method for mapping business and engineering processes (page 1 "Abstract"),

comprising the steps of:

giving users access to a system for generating an emergent model See page 1 column 2 paragraph 2:

> The DDE is a highly heterogeneous environment. Designers, engineering resources, **models and activities are not centralized** nor concentrated in one location, but rather are **distributed among many companies** and designers working together over computer networks.

See also page 3 column 1 paragraph 4:

> The Distributed Object-based Modeling and Evaluation (DOME) framework proposed in this paper uses these principles to provide a flexible environment to model and evaluate design problems using modules and **distributed modules**.

See also Figure 3 on page 4 and Figure 11 on page 7. As mentioned on page 6 lines 25-28 of the specification, the reference exhibits the qualities of an emergent model: distributed execution, storage and access.

publishing inputs and/or outputs of data objects and/or function objects generated by the users See page 4 column 1 paragraph 2:

> It manufactures gears and, using its in-house mathematical modeling capabilities and software applications, **provides access** to modules..."

See also page 7 column 2 paragraph 4:

> The relationships amongst modules specify how **outputs** of a module are connected to **inputs** of other modules.

See also page 4 column 2 paragraph 4:

> The basic building block is the module. A module is capable of **performing calculations** and **providing information** through service calls invoked by its user.

Publishing inputs and/or outputs is inherent in the use of a module, otherwise an associated module would be unable to anticipate the type of data to submit or the kinds of results to expect. "Providing information" and "performing calculations" are equivalent to "data objects" and "function objects," respectively.);

subscribing to the published inputs and/or outputs of data objects and/or function objects generated by the users, thereby creating a network of linked inputs and/or outputs of data objects and/or function objects See page 4 column 1 paragraph 2:

> These distributed design participants and their corresponding modules are **connected** through computer **networks**.

analyzing and displaying the network of linked inputs and/or outputs, resulting in a map of the business and engineering processes See page 9 Figure 15. Analyzing is inherent in displaying the network, since the display needs to be able to connect various analyzed modules.

wherein the network of linked inputs and/or outputs of data objects and/or function objects is created in a manner free of a central coordinating computing <module> (See page 6 Figure 9(a)).

wherein the data objects and/or function objects generated are used in business

and engineering processes See page 1 column 1 "Introduction":

> With the growing popularity of WWW-based browsers, many **manufacturing companies** are publishing their product information on the Internet. Some Internet-based companies are specialized in providing **design information** for machine part or component manufacturers.

While Pahng discloses a network of modules that is free of a central coordinating

module (see Figure 9(a) as cited above), Pahng does not expressly disclose a network that

is created in a manner free of a central coordinating computing device. However, in an

analogous environment, Chandy teaches that peer to peer networks are created wherein

there is no central computing device. See column 4 lines 35-37:

> By contrast, in peer-to-peer systems, all programs in the system can behave as both clients and servers, able both to deliver and manipulate data.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to use Chandy's teaching of peer-to-peer systems with Pahng's network of

devices. One of ordinary skill would have been motivated to both deliver and manipulate

data (see Chandy column 4 line 37), instead of being reliant on a central computing

device.

As per claim 2, the above rejection of claim 1 is incorporated. Pahng further

discloses: *wherein at least a part of the configuration of the network of linked inputs*

and/or outputs of data objects and/or function objects is predefined and used to

determine which inputs and/or outputs are generated on which of the computing devices

in the computer network (page 3 column 1 last paragraph).

As per claim 3, the above rejection of claim 1 is incorporated. Pahng further

discloses *wherein a user interface is defined that displays the data objects and/or*

function objects on a computing device on the computer network using a client process

that communicates with a server process wherein the data objects and/or function objects

can be viewed on any computing device connected to the computer network (page 7

column 1 paragraph 3 discusses use of CORBA which inherently provides accessibility

using a client/server model.; also page 10 column 1 paragraph 1 and Figure 17).

As per claim 4, the above rejection of claim 1 is incorporated. Pahng further

discloses: *wherein the inputs and/or outputs are stored in logical groups* (Figure 3).

As per claim 5, the above rejection of claim 1 is incorporated. Pahng further

discloses: *wherein references to the inputs and/or outputs are published using electronic*

media, print media or human conversation (page 6 column 1 last paragraph).

As per claim 6, the above rejection of claim 1 is incorporated. Pahng further

discloses: *wherein the step of generating the inputs and/or outputs provides an interface*

mapping for inputs and/or outputs stored in application programs, databases or

computer code libraries (Figure 11).

As per claim 7, the above rejection of claim 1 is incorporated. Pahng further

discloses: *wherein the function objects are implemented by computer code that is*

compiled, dynamically linked and evaluated at runtime (page 7 column 1 paragraph 2

discloses implementation in C++ which inherently provides code for compilation,

dynamic linkage, and runtime evaluation.).

In regard to claim 9, the above rejection of claim 1 is incorporated. Pahng further

discloses: *sending or receiving messages between the linked inputs and/or outputs of data

objects and/or function objects* (page 5 column 1 paragraph 3 discloses module

interaction in terms of compatible interfaces which include inputs and outputs. Sending

and receiving messages is inherent in object-oriented system, otherwise objects could not

communicate.).

As per claim 11, the above rejection of claim 1 is incorporated. Pahng does not

expressly disclose read, write, execute and administrative permissions on a per input

and/or output basis. However, Pahng further discloses future work including various

levels of access control corresponding to different users of the system (page 11 column 1

paragraph 1). It would have been obvious to one of ordinary skill in the art at the time

the invention was made to use specific permission levels in Pahng's modeling system.

One of ordinary skill would have been motivated to limit access to various modules to

various users so intellectual property and security can be maintained.

14.   Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pahng and Chandy

as applied to claim 1 above, and further in view of "Web based collaborative visualization of

distributed and parallel simulation" by Bajaj et al. (hereinafter referred to as "Bajaj").

As per claim 8, the above rejection of claim 1 is incorporated. Pahng does not expressly disclose code that it interpreted and evaluated at runtime. However, in an analogous environment, Bajaj teaches distributed execution of code that is interpreted and evaluated at runtime (page 51 column 1 paragraph 1: "Java"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Bajaj's interpreted code in Pahng's modeling system. One of ordinary skill would have been motivated to develop code that is capable of running on a heterogeneous computer platform.

15.   Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pahng and Chandy as applied to claim 1 above, and further in view of "Firewalls Complete" by Gonçalves (hereinafter referred to as "Gonçalves").

As per claim 12, the above rejection of claim 1 is incorporated. Pahng does not expressly disclose wherein the sending or receiving of messages can be enabled or disabled based on predefined criteria. However, in an analogous environment, Gonçalves teaches that messages can be examined based on various criteria and either be allowed or prohibited from further propagation (page 242 "Packet Filtering"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the message filtering of Gonçalves in Pahng's message passing system. One of ordinary skill

would have been motivated to prevent unauthorized users from accessing sensitive information.

As per claim 10, the above rejection of claim 12 is incorporated. Pahng does not expressly disclose wherein the criteria is based upon message source, message destination or message contents. However, in an analogous environment, Gonçalves teaches that messages can be filtered based on many criteria including message source (page 243 "Source IP address"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the message filtering criteria of Gonçalves in Pahng's message passing system. One of ordinary skill would have been motivated to limit the filtering of message only to those situations that require restriction, while allowing valid messages to pass through.

Conclusion

16.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5,787,080 describes a distributed "ad-hoc" network that is created in a manner free of a central coordinating computing device (see column 3 lines 23-41).

17.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571) 272-3703. The examiner can normally be reached on T-F 6:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jdr

TUAN DAM
,UPERVISORY PATENT EXAMINER